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HYOUNG-JOO LEE

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EXAMINER

VAN HANDEL, MICHAEL P

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/055,712	Applicant(s) LEE, HYOUNG-JOO	
	Examiner MICHAEL VAN HANDEL	Art Unit 2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/29/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-17,20-31,33-35 and 53-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-17,20-31,33-35 and 53-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/29/2010 has been entered.

Response to Amendment

2. This action is responsive to an Amendment filed 4/29/2010. Claims **1, 5-17, 20-31, 33-35, 53-63** are pending. Claims **1, 7, 12, 13, 17, 21, 26-31, 33-35, 53, 55, 57, 59** are amended. Claims **2-4, 18, 19, 32, 36** are canceled. Claims **37-52** are withdrawn. Claims **62, 63** are new.

Response to Arguments

3. Applicant's arguments regarding the phrase "receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station; parsing program information of a plurality of television programs from the received signal; retrieving program guide information from the parsed program information" with respect to claims **1, 7, 12, 13, 17, 21, 26, 27, 33-35, and 59**, filed 4/29/2010, have been considered, but are moot in view of the new ground(s) of rejection.

Art Unit: 2424

4. Applicant's arguments regarding the phrase "a receiving unit to receive an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station; a processor to parse program information of a plurality of television programs from the received signal, to retrieve program guide information from the parsed program information, the program guide containing a program schedule which includes information on a TV program" with respect to claim **28**, filed 4/29/2010, have been considered, but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments regarding the phrase "comprising a numeral" with respect to claims **26** and **28-30**, filed 4/29/2010, have been considered, but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments regarding the phrase "without a user input after the user issues the display command" with respect to claims **1, 7, 12, 13, 17, 21, 27, 31, 33-35, 55, and 57**, filed 4/29/2010, have been fully considered, but they are not persuasive.

Regarding claims **1, 7, 12, 13, 17, 21, 27, 31, 33-35, 55, and 57**, the applicant argues that Young does not teach "without a user input after the user issues the display command." The examiner respectfully disagrees. The examiner first notes the rejection under 35 USC 112, first paragraph below. Young discloses that Grazing Titles pop ups remain on the screen for two seconds after the user changes channels (col. 27, l. 30-38). Young further discloses that, if the user is displaying program notes (Fig. 10) and presses select, the notes are cleared and the titles are set to Auto (Fig. 11). If the user does not press Select, the program enters the same routine as when the user does not press select with the titles being displayed (Fig. 11). That is, it enters the part of the routine where the overlay disappears after two seconds. In an effort to expedite

Art Unit: 2424

prosecution, the examiner interprets this as “without a user input after the user issues the display command” in light of Applicant’s specification’s description of causing the overlay to disappear after an interval of time.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims **1, 5-17, 20-25, 27, 31, 33-35, 53-58, 60, and 61** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Referring to claims **1, 7, 12, 13, 17, 21, 27, 31, 33-35, 53, 55, and 57**, the examiner fails to find support in Applicant’s specification for the phrase “without a user input after the user issues the display command,” as currently claimed. Applicant’s specification states that the display window of the program progress time information is closed after a specified time interval has elapsed (paragraph 33 of published version of Applicant’s specification US 2002/0010926), but does not recite anything about this occurring without a user input after the user issues the display command.

Claims **5, 6, 8-11, 14-16, 20, 22-25, 54, 56, 58, 60, and 61** are rejected as being dependent on the aforementioned independent claims.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim **53-58, 60** are rejected under 35 U.S.C. 102(e) as being anticipated by Young.

Referring to claims **53, 55, 57, 58, and 60**, Young discloses a display device/method which displays program progress information of a current program (item 72)(Fig. 10), the display device/method comprising:

- a receiver which receives the current program and at least one of a beginning time of the current program (S)(item 72)(Fig. 10) and a terminating time of the current program (F)(item 72)(Fig. 10);
- a display which displays the current program (Figs. 10, 22A), and the program progress information of the current program (item 72)(Fig. 10), wherein the program progress information includes the beginning time of the current program (S)(item 72)(Fig. 10), a current time (vertical line)(item 72)(Fig. 10), the terminating time of the current program (F)(item 72)(Fig. 10) and a progress bar indicating a progress time of the current program (item 72)(Fig. 10), wherein the beginning time of the current program, the current time, and the terminating time of the current program are displayed in a numerical format (the examiner interprets item 72 to be displayed in

Art Unit: 2424

numerical format, since program progress is displayed as a fraction/percent of the bar representing total program duration), and wherein the progress bar has a first end (S) and a second end (F), and the beginning time is displayed in the numerical format at the first end of the progress bar (end corresponding to empty bar) and the terminating time is displayed in the numerical format at the second end of the progress bar (end corresponding to full bar), and the progress time of the current program is displayed on the progress bar between the first end and the second end (vertical line)(item 72)(Fig. 10), wherein the program progress information is displayed transiently for a predetermined time in response to a display command set by a user and automatically disappears after said predetermined time has elapsed, without a user input after the user sets the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear.

The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Further referring to claims **57**, **58**, and **60**, Young discloses that a type of the time information corresponds to which of the beginning time, the current time and the terminating time is displayed as the time information and the time information is displayed in a location relative to the progress bar, such that the location depends on the type of the time information (start time S is displayed at left-end of bar, finish time F is displayed at right-end of bar, and current time

Art Unit: 2424

(vertical line) is displayed at a position corresponding to current time in program)(item 72)(Fig. 10).

Referring to claims **54** and **56**, Young discloses the display device/method as claimed in claims 53 and 55, respectively, further comprising a microprocessor to determine a remaining time of the current program, and the remaining time is displayed as a first color (white)(item 72)(Fig. 10), wherein the progress time of the current program is displayed as a second color (gray)(item 72)(Fig. 10) and wherein the first color and the second color are displayed on the progress bar (item 72)(Fig. 10).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims **1, 5-12, 61** are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (of record) in view of Russo et al. (of record), and further in view of ATSC Digital Television Standard A/53.

Referring to claim **1**, Young discloses a method of displaying a program progress time (item 72) on a signal receiver (Fig. 10) which receives and processes program guide information containing a program schedule (col. 17, l. 37-44), comprising:

- storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A);

Art Unit: 2424

- setting a command of the signal receiver which is commonly usable by a user as a display command to display time information about a currently viewed program (program time information is displayed on demand for the user)(col. 10, l. 20-40 & Fig. 10); and
- displaying, in a numerical format (the examiner interprets item 72 to be displayed in numerical format, since program progress is displayed as a fraction/percent of the bar representing total program duration), the time information about the currently viewed program together with the currently viewed program when the user issues the display command set in said setting a command (user uses a Select command for displaying the information)(col. 8, l. 66-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11), the time information comprising a beginning time with respect to the currently viewed program, a program terminating time of the currently viewed program, and a current time with respect to the currently viewed program (item 72 is a percentage calibrated time bar, where S indicates a beginning time, F indicates a finishing time, and current time is indicated by a vertical line within the bar. Current time is additionally indicated in 62 as 11:00A)(col. 10, l. 20-40 & Fig. 10);
- displaying a display bar (item 72) representing a total program broadcasting time of the currently viewed program (Fig. 10); and
- automatically displaying next program information when a remaining program time reaches a preset time (the examiner notes that when the remaining time reaches zero, the next broadcast program comes on. The examiner interprets this as automatically displaying next program information when a remaining program time reaches a preset

Art Unit: 2424

time), wherein the time information and the display bar are displayed transiently for a predetermined time when a user issues the display command set in said setting the command and disappear after said predetermined time has elapsed, without a user input after the user issues the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38 & Fig. 11). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose that the beginning time is below a left-most end of the display bar, the program terminating time is below a right-most end of the display bar, and the current time is below the display bar at a position corresponding to the program progress time.

Russo et al. discloses a graphical display bar indicating progress time of a video program currently being received (col. 9, l. 32-51 & Fig. 2C). The width of the bar is fixed and indicative of the program length, and is divided up into a left-hand already received and recorded portion 242 and a right-hand yet-to-be received and recorded portion 244, separated by a delineation 246 indicative of current time. Thus, as the program is received and recorded, the boundary 246 will slowly move from left to right to convey to a viewer that a larger and larger percentage of the incoming program is being stored. The examiner further notes that the begin time is displayed with numerical characters below a left-most end of the display bar, the end time is displayed with numerical characters below a right-most end of the display bar, and the current time is displayed below the display bar at a position corresponding to the current time (col. 9, l. 32-51 & Fig. 2C).

Art Unit: 2424

It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the time bar of Young to display beginning time in numerical characters below a left-most end of the display bar, ending time in numerical characters below a right-most end of the display bar, and current time in numerical characters below a position of the display bar corresponding to the current time, such as that taught by Russo et al. in order to provide convenient facilities to communicate playback progress and to mark points of interest to the user (Russo et al. col. 2, l. 17-21).

The combination of Young and Russo et al. does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and

Art Unit: 2424

Russo et al. to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim 5, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 1, wherein the time information includes the program progress time determined by subtracting the beginning time from the current time (Young displays the progress time as a grayed portion of the bar between the current time and the start time)(item 72)(Young Fig. 10).

Referring to claim 6, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 5, wherein the time information further comprises the remaining program time determined by subtracting the current time from the program terminating time (Young displays the remaining program time as a white portion of the bar between the current time and the finish time)(item 72)(Young Fig. 10).

Referring to claim 7, Young discloses a method of displaying a program progress time (item 72) on a signal receiver (Fig. 10) which receives and processes program guide information containing a program schedule (col. 17, l. 37-44), comprising:

- storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A);
- automatically displaying time information, in a numerical format (the examiner interprets item 72 to be displayed in numerical format, since program progress is

Art Unit: 2424

- displayed as a fraction/percent of the bar representing total program duration), about a currently viewed program on the signal receiver when a user issues a display command (user uses a Select command for displaying the information)(col. 10, l. 20-40 & Fig. 10) the time information including a beginning time with respect to the currently viewed program, a program terminating time of the currently viewed program, and a current time with respect to the currently viewed program (item 72 is a percentage calibrated time bar, where S indicates a beginning time, F indicates a finishing time, and current time is indicated by a vertical line within the bar. Current time is additionally indicated in 62 as 11:00A)(col. 10, l. 20-40 & Fig. 10);
- displaying a display bar (item 72) representing a total program broadcasting time of the currently viewed program (Fig. 10); and
 - automatically displaying next program information when a remaining program time reaches a preset time (the examiner notes that when the remaining time reaches zero, the next broadcast program comes on. The examiner interprets this as automatically displaying next program information when a remaining program time reaches a preset time), wherein the time information and display bar are displayed transiently for a predetermined time when the user issues the display command and disappear after said predetermined time has elapsed, without a user input after the user issues the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired. The examiner

Art Unit: 2424

interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose that the beginning time is below a left-most end of the display bar, the program terminating time is below a right-most end of the display bar, and the current time is below the display bar at a position corresponding to the program progress time. Russo et al. discloses a graphical display bar indicating progress time of a video program currently being received (col. 9, l. 32-51 & Fig. 2C). The width of the bar is fixed and indicative of the program length, and is divided up into a left-hand already received and recorded portion 242 and a right-hand yet-to-be received and recorded portion 244, separated by a delineation 246 indicative of current time. Thus, as the program is received and recorded, the boundary 246 will slowly move from left to right to convey to a viewer that a larger and larger percentage of the incoming program is being stored. The examiner further notes that the begin time is displayed with numerical characters below a left-most end of the display bar, the end time is displayed with numerical characters below a right-most end of the display bar, and the current time is displayed below the display bar at a position corresponding to the current time (col. 9, l. 32-51 & Fig. 2C). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the time bar of Young to display beginning time in numerical characters below a left-most end of the display bar, ending time in numerical characters below a right-most end of the display bar, and current time in numerical characters below a position of the display bar corresponding to the current time, such as that taught by Russo et al. in order to provide convenient facilities to communicate playback progress and to mark points of interest to the user (Russo et al. col. 2, l. 17-21).

The combination of Young and Russo et al. does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and Russo et al. to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **8**, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 7, wherein the time information further comprises a percentage of the program progress time as

Art Unit: 2424

compared with the total program broadcasting time calculated by subtracting the beginning time from the program terminating time (time bar is a percentage calibrated time bar and progressed time is displayed as a percentage of the total bar)(item 72)(Young col. 10, l. 27-35 & Fig. 10).

Referring to claim **9**, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 8, wherein the time information further comprises a percentage of the remaining program time as compared with the total program broadcasting time (time bar is a percentage calibrated time bar and remaining time is displayed as a percentage of the total bar)(item 72)(Young col. 10, l. 27-35 & Fig. 10).

Referring to claim **10**, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 1, wherein the commonly usable command of the signal receiver is a command for a channel up/down (items 136)(Young col. 8, l. 46-65; col. 10, l. 20-40; & Figs. 10, 21).

Referring to claim **11**, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 1, wherein the commonly usable command of the signal receiver is a command for a remote controller event (item 212)(Young col. 10, l. 20-40 & Figs. 10, 22B).

Referring to claim **12**, Young discloses a method of displaying a program progress time (item 72) on a signal receiver (Fig. 10) which receives and processes program guide information containing a program schedule (col. 17, l. 37-44), comprising:

- storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A);

Art Unit: 2424

- displaying time information, in a numerical format (the examiner interprets item 72 to be displayed in numerical format, since program progress is displayed as a fraction/percent of the bar representing total program duration), about a currently viewed program on the signal receiver when a user issues a display command set the time information (user uses a Select command for displaying the information)(col. 10, l. 20-40 & Fig. 10) including a beginning time with respect to the currently viewed program, a program terminating time of the currently viewed program, and a current time with respect to the currently viewed program;
- displaying a display bar representing a total program broadcasting time of the currently viewed program (item 72 is a percentage calibrated time bar, where S indicates a beginning time, F indicates a finishing time, and current time is indicated by a vertical line within the bar. Current time is additionally indicated in 62 as 11:00A)(col. 10, l. 20-40 & Fig. 10); and
- judging that the command for displaying the program progress time is issued by the user so as to automatically display the program progress time at a preset time set by the user prior to a program terminating time of the currently viewed program (user uses a Select command for displaying the information about the currently viewed program)(col. 10, l. 20-40 & Fig. 10), wherein the time information and display bar are displayed transiently for a predetermined time when the user issues the display command and disappear after said predetermined time has elapsed, without a user input after the user issues the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds

Art Unit: 2424

have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose that the beginning time is below a left-most end of the display bar, the program terminating time is below a right-most end of the display bar, and the current time is below the display bar at a position corresponding to the program progress time. Russo et al. discloses a graphical display bar indicating progress time of a video program currently being received (col. 9, l. 32-51 & Fig. 2C). The width of the bar is fixed and indicative of the program length, and is divided up into a left-hand already received and recorded portion 242 and a right-hand yet-to-be received and recorded portion 244, separated by a delineation 246 indicative of current time. Thus, as the program is received and recorded, the boundary 246 will slowly move from left to right to convey to a viewer that a larger and larger percentage of the incoming program is being stored. The examiner further notes that the begin time is displayed with numerical characters below a left-most end of the display bar, the end time is displayed with numerical characters below a right-most end of the display bar, and the current time is displayed below the display bar at a position corresponding to the current time (col. 9, l. 32-51 & Fig. 2C). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the time bar of Young to display beginning time in numerical characters below a left-most end of the display bar, ending time in numerical characters below a right-most end of the display bar, and current time in numerical characters below a position of the display bar corresponding to the current time, such as that taught by Russo et al. in order to provide

Art Unit: 2424

convenient facilities to communicate playback progress and to mark points of interest to the user (Russo et al. col. 2, l. 17-21).

The combination of Young and Russo et al. does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and Russo et al. to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Art Unit: 2424

Referring to claim **61**, the combination of Young, Russo et al., and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 1, further comprising moving the current time relative to the display bar according to the program progress time (elapsed time is indicated by the percentage calibrated time bar)(item 72)(Fig. 10).

13. Claims **13-17, 20, 23-25, 33, 35, 59, 62, 63** are rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of ATSC Digital Television Standard A/53.

Referring to claim **13**, Young discloses a method of displaying a program progress time (item 72) in a signal receiver (Fig. 10) which receives and processes program guide information containing a program schedule (col. 17, l. 37-44), comprising:

- receiving and storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A);
- displaying a program terminating time of the currently viewed program (item 72 is a percentage calibrated time bar, where F indicates a finishing time)(col. 10, l. 20-40 & Fig. 10);
- determining a total program broadcasting time of a currently viewed program by subtracting a program beginning time from the program terminating time of the currently viewed program when a user issues a command requesting the displaying of the program progress time of the currently viewed program (item 72)(user uses a Select command to display a program bar representing the duration of the program from start to finish)(col. 10, l. 20-40 & Fig. 10);

Art Unit: 2424

- determining the program progress time by subtracting the beginning time from a current time (time bar is a percentage calibrated time bar and progressed time is displayed as a percentage of the total bar)(item 72)(col. 10, l. 27-35 & Fig. 10);
- displaying a display bar representing the total program broadcasting time, including the current time (item 72)(Fig. 10); and
- automatically displaying the display bar so as to indicate a position on the display bar corresponding to the program progress time at a preset time set by the user (user uses a Select command for displaying the information. Progress time is indicated by a vertical line within the bar)(col. 10, l. 20-40 & Fig. 10), wherein the program terminating time, total program broadcasting time, and display bar are displayed transiently for a predetermined time when the user issues the command and automatically disappear after said predetermined time has elapsed, without a user input after the user issues the command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received

Art Unit: 2424

signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Young to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **14**, the combination of Young and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 13, further comprising displaying the display bar by distinguishing between a portion of the program progress time elapsed and a remaining program progress time portion (time elapsed is represented in gray, while time remaining is represented in white)(item 72)(Young Fig. 10).

Referring to claim **15**, the combination of Young and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 14, further

Art Unit: 2424

comprising displaying the program progress time on a portion of the display bar between a starting position of the display bar and a position corresponding to the program progress time on the display bar (program progress time is indicated by gray bar between S and vertical line)(item 72)(Young Fig. 10).

Referring to claim **16**, the combination of Young and ATSC Digital Television Standard teaches a method of displaying a program progress time as claimed in claim 14, comprising displaying the remaining program progress time on a portion of the display bar between a position corresponding to the program progress time and an end position of the display bar (remaining time is indicated by white bar between vertical line and F)(item 72)(Young Fig. 10).

Referring to claim **17**, Young discloses a method of displaying a program progress time (item 72) of a currently viewed program of a signal receiver (Fig. 10), the method comprising:

- receiving program guide information including a program schedule having the currently viewed program (col. 17, l. 37-44 & Figs. 10, 22A); and
- automatically displaying the program progress time of the currently viewed program simultaneously with the currently viewed program in response to a command from a user to perform a function other than displaying the program progress time upon receipt of the command (user uses a Select command or changes channels for displaying items 62, 70)(col. 8, l. 45-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11, 21), the program progress time including a current time (vertical line in time bar)(item 72)(Fig. 10), the command being one of an activating a channel up/down key (Fig. 11) and setting of a preset time prior to a program termination of the currently viewed program (user Select command), wherein the program progress time

Art Unit: 2424

is displayed transiently for a predetermined time in response to the command from the user and automatically disappears after said predetermined time has elapsed, without a user input after the command from the user (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide

Art Unit: 2424

PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Young to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **20**, the combination of Young and ATSC Digital Television Standard teaches the method as claimed in claim 17, further comprising:

- generating a setup display (item 62)(Young col. 10, l. 27-40 & Figs. 10, 11) for the user to designate ones of a plurality of commands to function as the command to perform the function other than displaying the program progress time upon receipt of the command (title note 62 is displayed. If user presses Select, notes are displayed. User presses Select command out of plurality of remote control commands)(Young Fig. 21); and
- receiving inputs from the user designating the ones of the plurality of the command to function as the command to perform the function other than displaying the program progress time upon receipt of the command (Young col. 10, l. 27-40 & Figs. 11, 21).

Referring to claim **23**, the combination of Young and ATSC Digital Television Standard teaches the method as claimed in claim 17, wherein the program progress time further includes a program beginning time (S), and a program termination time (F) of the currently viewed program (item 72)(Young Fig. 10).

Referring to claim **24**, the combination of Young and ATSC Digital Television Standard teaches the method as claimed in claim 23, wherein the program progress time further includes a

Art Unit: 2424

channel number (CH 2)(item 62), a name of a broadcast station (KNTV-FOX)(item 62) and a title of the currently viewed program (COSBY SHOW)(Young Fig. 10).

Referring to claim **25**, the combination of Young and ATSC Digital Television Standard teaches the method as claimed in claim 23, wherein said displaying comprises displaying the program beginning time at a start of a display bar (S), the program termination time at an end of the display bar (F), and the current time at a position of the display bar corresponding to a percentage of time elapsed versus a total time of the currently viewed program (vertical line)(item 72 is a percentage calibrated bar)(Young col. 10, l. 20-40 & Fig. 10).

Referring to claim **33**, Young discloses a method of displaying a program progress time (item 72) on a signal receiver (Fig. 10) which receives and processes program guide information containing a program schedule (col. 17, l. 37-44), comprising:

- storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A);
- displaying time information about a currently viewed program together with the currently viewed program on the signal receiver when a user issues a display command set (user uses a Select command for displaying the information)(col. 8, l. 66-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11), the time information including a beginning time (S)(item 72)(Fig. 10), a current time (vertical line)(item 72)(Fig. 10), and a terminating time of the currently viewed program (F)(item 72)(Fig. 10); and
- automatically displaying next program information when the time information reaches a preset terminating time (the examiner notes that when the remaining time

Art Unit: 2424

reaches zero, the next broadcast program comes on. The examiner interprets this as automatically displaying next program information when a remaining program time reaches a preset time), wherein said time information is displayed transiently for a predetermined time when the user issues the display command and automatically disappears after said predetermined time has elapsed, without a user input after the user issues the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear.

The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television

Art Unit: 2424

Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Young to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **35**, Young discloses a method of displaying a program progress time (item 72) on a signal receiver (Fig. 10) which receives and processes program guide information containing a program schedule (col. 17, l. 37-44), the method comprising:

- storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A); and
- displaying time information about a currently viewed program together with the currently viewed program (item 72)(Fig. 10) and next program information automatically at a preset terminating time of the currently viewed program (the examiner notes that when the remaining time reaches zero, the next broadcast program comes on. The examiner interprets this as automatically displaying next program information when a remaining program time reaches a preset time), the time information comprising a beginning time (S)(item 72)(Fig. 10) with respect to the currently viewed program, the program progress time including a current time (vertical line)(item 72)(Fig. 10), wherein said time information is displayed

Art Unit: 2424

transiently for a predetermined time in response to a display command set by a user and automatically disappears after said predetermined time has elapsed, without a user input after the user sets the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide

Art Unit: 2424

PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Young to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **59**, Young discloses a method of displaying a current program, time information of the current program in a television receiver (Fig. 10), the method comprising:

- receiving a television signal transmitted from a broadcasting station (col. 17, l. 28-30);
- parsing program information of a plurality of television programs from the received signal (col. 17, l. 30-45);
- retrieving program guide information from the parsed program information (col. 17, l. 45-56);
- identifying a start time of a current television program based on the retrieved program guide information (Figs. 1-3);
- processing video data of the current television program and the program guide information including at least the identified start time to be applied to a display (col. 10, l. 20-40 & Figs. 9, 10).

Young does not specifically disclose that the received television signal is an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses

Art Unit: 2424

receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify Young to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **62**, the combination of Young and ATSC Digital Television Standard teaches the method of claim 59, further comprising:

- converting an IF signal from a tuner of the receiver into a baseband signal (RF Mod 2028)(Young Fig. 24); and
- converting the baseband signal into a channel signal to reconstruct a transport stream (as reproduced by audio and video on TV)(TS)(Young Fig. 24).

Referring to claim **63**, the combination of Young and ATSC Digital Television Standard teaches the method of claim 62, further comprising identifying time information indicating a length of a television program based on the retrieved program guide information (Young col. 10, l. 20-40 & Fig. 10).

Art Unit: 2424

14. Claims **21**, **34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Ellis et al., and further in view of ATSC Digital Television Standard A/53.

Referring to claim **21**, Young discloses a method of displaying a program progress time (item 72) of a currently viewed program of a signal receiver (Fig. 10), the method comprising:

- receiving program guide information including a program schedule having the currently viewed program (col. 17, l. 37-44 & Figs. 10, 22A);
- displaying a program progress time including a current time (vertical line in time bar)(item 72)(Fig. 10) of the currently viewed program in response to a command from a user to perform a function other than displaying the program progress time upon receipt of the command (user uses a Select command or changes channels for displaying items 62, 70)(col. 8, l. 45-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11, 21); and
- automatically displaying next program information of a next program on a same channel as the currently viewed program (the examiner notes that when the remaining time reaches zero, the next broadcast program comes on. The examiner interprets this as automatically displaying next program information when a remaining program time reaches a preset time), wherein the program progress time is displayed transiently for a predetermined time in response to the command from the user and automatically disappears after said predetermined time has elapsed, without a user input after the command from the user (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar

Art Unit: 2424

until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose that next program information is displayed at a preset time prior to the program termination of the currently viewed program and that the next program information is displayed transiently for a predetermined time in response to the command from the user and disappears after said predetermined time has elapsed. Ellis et al. discloses a program BROWSE mode that displays an overlay portion 111 describing the program currently playing on the current channel (col. 13, l. 19-30 & Figs. 7, 8). Ellis et al. further discloses that, while viewing the program schedule information for a currently viewed program, the user can press a right direction arrow to display future program schedule information for the channel currently being viewed (col. 13, l. 19-30 & Fig. 8A). Ellis et al. further discloses that the user may exit the BROWSE mode by depressing the MODE key twice (col. 13, l. 6-11). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify to the program notes display of Young to allow a user to view program notes about the next program on the channel, and to allow the user to move between program notes about the currently viewed program and the next program until the user exits the mode, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56). Ellis et al. further discloses that the user may set a REMINDER message to remind the viewer about the future program at a predetermined time before the start of the future program (col. 13, l. 54-67; col. 14,

Art Unit: 2424

l. 1-26; & Figs. 9A, 9B). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the program notes display of Young to display a reminder about an upcoming program on the same channel, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56).

The combination of Young and Ellis et al. does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and Ellis et al. to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase

Art Unit: 2424

efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Referring to claim **34**, Young discloses a method of outputting a program progress time (item 72) information to a display (Fig. 10), comprising:

- receiving program guide information containing a program schedule (col. 17, l. 37-44 & Fig. 22A);
- storing the program guide information (to a schedule memory)(item 232)(col. 17, l. 37-44 & Fig. 22A);
- outputting the program progress time information (item 72)(Fig. 10) about a currently viewed program together with the currently viewed program on the display when a user issues a display command set (Select)(col. 10, l. 20-40 & Figs. 10, 11), the program progress time information including a beginning time (S)(item 72)(Fig. 10), a current time (vertical line)(item 72)(Fig. 10), and a terminating time (F) of the currently viewed program (item 72)(Fig. 10); and
- displaying the time information when the current time reaches a preset terminating time of the currently viewed program (when the user presses Select), wherein said time information is displayed transiently for a predetermined time when the user issues the display command and automatically disappears after said predetermined time has elapsed, without a user input after the user issues the display command (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select

Art Unit: 2424

button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose displaying next information at the preset time. Ellis et al. discloses a program BROWSE mode that displays an overlay portion 111 describing the program currently playing on the current channel (col. 13, l. 19-30 & Figs. 7, 8). Ellis et al. further discloses that, while viewing the program schedule information for a currently viewed program, the user can press a right direction arrow to display future program schedule information for the channel currently being viewed (col. 13, l. 19-30 & Fig. 8A). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify to the program notes display of Young to allow a user to view program notes about the next program on the channel, and to allow the user to move between program notes about the currently viewed program and the next program until the user exits the mode, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56). Ellis et al. further discloses that the user may set a REMINDER message to remind the viewer about the future program at a predetermined time before the start of the future program (col. 13, l. 54-67; col. 14, l. 1-26; & Figs. 9A, 9B). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the program notes display of Young to display a reminder about an upcoming program on the same channel, such as that taught by Ellis et al. in order to allow a user to create

Art Unit: 2424

a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56).

The combination of Young and Ellis et al. does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and Ellis et al. to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Art Unit: 2424

15. Claim **22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of ATSC Digital Television Standard A/53, and further in view of Ellis et al.

Referring to claim **22**, the combination of Young and ATSC Digital Television Standard teaches the method as claimed in claim 17, further comprising:

- generating a setup display (item 62)(Young col. 10, l. 27-40 & Figs. 10, 11) for the user to designate ones of a plurality of commands to function as the command to perform the function other than displaying the program progress time upon receipt of the command, wherein the plurality of commands further comprises displaying the program progress time at the preset time prior to a program termination of the currently viewed program (title note 62 is displayed. If user presses Select, notes are displayed. User presses Select command out of plurality of remote control commands)(Young Fig. 21); and
- receiving inputs from the user designating whether the ones of the plurality of commands are to function as the command to perform the function other than displaying the program progress time upon receipt of the command (Young col. 10, l. 27-40 & Figs. 11, 21).

The combination of Young and ATSC Digital Television Standard does not specifically teach that the user provide a command at the setup menu for displaying next program information on a same channel as the currently viewed program at the preset time and displaying the next program information at the preset time if the first and the another commands are set by the user positively. Ellis et al. discloses a program BROWSE mode that displays an overlay portion 111 describing the program currently playing on the current channel (col. 13, l. 19-30 & Figs. 7, 8). Ellis et al.

Art Unit: 2424

further discloses that, while viewing the program schedule information for a currently viewed program, the user can press a right direction arrow to display future program schedule information for the channel currently being viewed (col. 13, l. 19-30 & Fig. 8A). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the program notes display in the combination of Young and ATSC Digital Television Standard to allow the user to press a right direction arrow to display future program schedule information for the channel currently being viewed, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56).

16. Claims **26, 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Sony Digital Satellite Receiver SAT-A1, and further in view of ATSC Digital Television Standard A/53.

Referring to claim **26**, Young discloses a method of displaying a program progress time (item 72) including a program beginning time (S)(item 72), a current time (vertical line)(item 72), and a program terminating time (F)(item 72) of a currently viewed program of a signal receiver (Fig. 10), the method comprising:

- receiving program guide information including a program schedule having the currently viewed program (col. 17, l. 37-44 & Figs. 10, 22A);
- displaying the program progress time of the currently viewed program simultaneously with the currently viewed program automatically at a preset time (user uses a Select command for displaying the information)(col. 8, l. 66-67; col. 9, l. 1-10; & Fig. 10)

Art Unit: 2424

wherein said displaying the program progress time further comprises displaying the beginning time at a start of a display bar (S)(item 72)(Fig. 10), the program termination time at an end of the display bar (F)(item 72)(Fig. 10), a first percentage number of the time elapsed (gray part of bar) and a second percentage number of a time remaining (white part of bar) versus the total time of the currently viewed program and the current time at a position of the display bar corresponding to a percentage of time elapsed versus a total time of the currently viewed program (vertical line)(item 72)(Fig. 10), wherein the program progress time, first percentage number, and second percentage number are displayed transiently for a predetermined time when a user issues a display command set in said setting a command and disappear after said predetermined time has elapsed (the examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose displaying the percentage numbers as numerals. Sony Digital Satellite Receiver SAT-A1 Operating Instructions discloses a technique of displaying a status progress bar with numerical characters indicating the percentage completed (8% here). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the percent completed (gray part of bar) and percent remaining (white part of bar) of the percentage calibrated time bar of Young to display the precise percentages in

Art Unit: 2424

numerical characters, such as that taught by Sony Digital Receiver SAT-A1 in order to offer a more precise visual notification to users about progress made and time remaining.

The combination of Young and Sony Digital Receiver SAT-A1 does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and Sony Digital Receiver SAT-A1 to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

Art Unit: 2424

Referring to claim 27, Young discloses a method of displaying a program progress time (item 72) having a program beginning time (S)(item 72), a current time (vertical line)(item 72), and a program terminating time (F)(item 72) of a currently viewed program of a signal receiver (Fig. 10), the method comprising:

- receiving program guide information including a program schedule having the currently viewed program (col. 17, l. 37-44 & Figs. 10, 22A); and
- displaying the program progress time of the currently viewed program in response to a command from a user to perform a function other than displaying the program progress time upon receipt of the command (user uses a Select command or changes channels for displaying items 62, 70)(col. 8, l. 45-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11, 21) wherein said displaying the program progress time further comprises displaying the beginning time at a start of a display bar (S)(item 72)(Fig. 10), the program termination time at end of the display bar (F)(item 72)(Fig. 10), and the current time at a position of the display bar corresponding to a percentage of time elapsed versus a total time of the currently viewed program (vertical line)(item 72)(Fig. 10) and the command is to display the program progress time automatically at a preset time prior to a program termination of the currently viewed program (user uses a Select command for displaying the information)(col. 8, l. 66-67; col. 9, l. 1-10; & Fig. 10), wherein the program progress time, a first percentage number, and a second percentage number are displayed transiently for a predetermined time in response to the command from the user and automatically disappear after said predetermined time has elapsed, without a user input after the command (the

Art Unit: 2424

examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Furthermore, the technique of displaying a progressive time bar together with numerical characters displaying the precise percentage amount indicated by the progressive bar is known in the prior art. In fact, the Sony Digital Satellite Receiver SAT-A1 Operating Instructions discloses a technique of displaying a status progress bar with numerical characters indicating the percentage completed (8% here). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the percent completed (gray part of bar) and percent remaining (white part of bar) of the percentage calibrated time bar of Young to display the precise percentages in numerical characters, such as that taught by Sony Digital Receiver SAT-A1 in order to offer a more precise visual notification to users about progress made and time remaining.

The combination of Young and Sony Digital Receiver SAT-A1 does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television

Art Unit: 2424

Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young and Sony Digital Receiver SAT-A1 to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

17. Claim **28** is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Ellis et al., further in view of Digital Satellite Receiver SAT-A1, and still further in view of ATSC Digital Television Standard.

Referring to claim **28**, Young discloses a device for displaying a program progress time (item 72)(Fig. 10), comprising:

Art Unit: 2424

- a receiving unit to receive a program and a program guide containing a program schedule which includes information on a TV program (col. 17, l. 37-44 & Figs. 10, 22A);
- a processor to produce data for displaying the program progress time transiently for a predetermined time in response to a command from a user and video output unit to mix video data of the program and said data for displaying the program progress time of the program, to output a resulting signal (user uses a Select command or changes channels for displaying items 62, 70)(col. 8, l. 45-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11, 21); and
- a display to display the resulting signal automatically at a preset remaining time of the program, the program progress time including a program beginning time of the TV program, a progress percentage number, and a current time (Fig. 10).

Young does not specifically disclose that next program information is displayed at a preset time prior to the program termination of the currently viewed program. Ellis et al. discloses a program BROWSE mode that displays an overlay portion 111 describing the program currently playing on the current channel (col. 13, l. 19-30 & Figs. 7, 8). Ellis et al. further discloses that, while viewing the program schedule information for a currently viewed program, the user can press a right direction arrow to display future program schedule information for the channel currently being viewed (col. 13, l. 19-30 & Fig. 8A). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify to the program notes display of Young to allow a user to view program notes about the next program on the channel, and to allow the user to move between program notes about the currently viewed program and

Art Unit: 2424

the next program until the user exits the mode, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56). Ellis et al. further discloses that the user may set a REMINDER message to remind the viewer about the future program at a predetermined time before the start of the future program (col. 13, l. 54-67; col. 14, l. 1-26; & Figs. 9A, 9B). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the program notes display of Young to display a reminder about an upcoming program on the same channel, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56).

The combination of Young and Ellis et al. does not specifically teach displaying the percentage numbers as numerals. Sony Digital Satellite Receiver SAT-A1 Operating Instructions discloses a technique of displaying a status progress bar with numerical characters indicating the percentage completed (8% here). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the percent completed (gray part of bar) and percent remaining (white part of bar) of the percentage calibrated time bar in the combination of Young and Ellis et al. to display the precise percentages in numerical characters, such as that taught by Sony Digital Receiver SAT-A1 in order to offer a more precise visual notification to users about progress made and time remaining.

The combination of Young, Ellis et al., and Sony Digital Receiver SAT-A1 does not specifically teach receiving an Advanced Television Standards Committee (ATSC) digital television signal in a transport stream packet transmitted from a broadcasting station, parsing

Art Unit: 2424

program information of a plurality of television programs from the received signal, and retrieving program guide information from the parsed program information. ATSC Digital Television Standard discloses a digital television standard designed to transmit high quality video and audio over a single 6 MHz channel (p. 18, Section 5.1 Objectives). ATSC Digital Television Standard further discloses receiving the ATSC signal (p. 19, Figure 5.1). ATSC Digital Television Standard discloses that video, audio, ancillary data, and control data are multiplexed by dividing the digital data stream into packets of information by employing the MPEG-2 transport stream syntax (p. 19, paragraph 2 & Figure 5.1). ATSC Digital Television Standard also discloses that an interactive program guide database may be transmitted in the transport stream, which allows a receiver to build an on-screen grid of program information and contains control information to facilitate navigation (p. 42, Section 5.6.1.1 Master program guide PID). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the combination of Young, Ellis et al., and Sony Digital Receiver SAT-A1 to receive ATSC digital television signals and parse program guide information from the signals, such as that taught by ATSC Digital Television Standard in order to increase efficiency in utilizing available channel capacity (ATSC Digital Television Standard p. 18, Section 5.1).

18. Claim **29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Sony Digital Receiver SAT-A1.

Referring to claim **29**, Young discloses a device for displaying a program progress time (item 72) the program progress time including a current time and a progress percentage number (Fig. 10), comprising:

Art Unit: 2424

- a receiving unit to receive a TV program and a TV program guide containing a program schedule which includes information on the TV program (col. 17, l. 37-44 & Figs. 10, 22A);
- a user interface to enable entry of a command from a user requesting display of the program progress time (col. 10, l. 20-40 & Figs. 10, 11);
- an audio output unit to generate an audio signal of the TV program (col. 8, l. 64);
- a processor to produce On-Screen-Graphic data for displaying the program progress time transiently for a predetermined time in response to the command from the user and based upon the program schedule (user uses a Select command for displaying the information)(col. 8, l. 66-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11);
- a video output unit to mix video data of the TV program and On-Screen-Graphic data of the TV program, to output a resulting signal (Fig. 10); and
- a display to automatically display the resulting signal wherein the command is one of an activating a channel up/down key and setting of a preset time prior to a program termination of a currently viewed program (channel up/down or Select)(col. 8, l. 46-65; col. 10, l. 20-40; & Figs. 10, 21).

Young does not specifically teach displaying the percentage numbers as numerals. Sony Digital Satellite Receiver SAT-A1 Operating Instructions discloses a technique of displaying a status progress bar with numerical characters indicating the percentage completed (8% here). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the percent completed (gray part of bar) and percent remaining (white part of bar) of the percentage calibrated time bar of Young to display the precise percentages in numerical

Art Unit: 2424

characters, such as that taught by Sony Digital Receiver SAT-A1 in order to offer a more precise visual notification to users about progress made and time remaining.

19. Claim **30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Ellis et al., and further in view of Sony Digital Receiver SAT-A1.

Referring to claim **30**, Young discloses a device for displaying a program progress time (item 72) the program progress time including a current time and a progress percentage number (Fig. 10), comprising:

- a receiving unit to receive a TV program and a TV program guide containing a program schedule which includes information on the TV program (col. 17, l. 37-44 & Figs. 10, 22A);
- a user interface to enable entry of a command from a user requesting display of the program progress time (col. 10, l. 20-40 & Figs. 10, 11);
- an audio output unit to generate an audio signal of the TV program (col. 8, l. 64);
- a processor to produce On-Screen-Graphic data for displaying the program progress time transiently for a predetermined time in response to the command from the user and based upon the program schedule (user uses a Select command for displaying the information)(col. 8, l. 66-67; col. 9, l. 1-10; col. 10, l. 20-40; & Figs. 10, 11);
- a video output unit to mix video data of the TV program and On-Screen-Graphic data of the TV program, to output a resulting signal; and
- a display to automatically display the resulting signal (Fig. 10).

Art Unit: 2424

Young does not specifically disclose that the processor produces ON-Screen Graphic data for displaying next program information of a next program on a same channel as the TV program at a preset time prior to a program termination of the TV program. Ellis et al. discloses a program BROWSE mode that displays an overlay portion 111 describing the program currently playing on the current channel (col. 13, l. 19-30 & Figs. 7, 8). Ellis et al. further discloses that, while viewing the program schedule information for a currently viewed program, the user can press a right direction arrow to display future program schedule information for the channel currently being viewed (col. 13, l. 19-30 & Fig. 8A). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify to the program notes display of Young to allow a user to view program notes about the next program on the channel, and to allow the user to move between program notes about the currently viewed program and the next program until the user exits the mode, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56). Ellis et al. further discloses that the user may set a REMINDER message to remind the viewer about the future program at a predetermined time before the start of the future program (col. 13, l. 54-67; col. 14, l. 1-26; & Figs. 9A, 9B). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the program notes display of Young to display a reminder about an upcoming program on the same channel, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56).

Art Unit: 2424

The combination of Young and Ellis et al. does not specifically teach displaying the percentage numbers as numerals. Sony Digital Satellite Receiver SAT-A1 Operating Instructions discloses a technique of displaying a status progress bar with numerical characters indicating the percentage completed (8% here). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the percent completed (gray part of bar) and percent remaining (white part of bar) of the percentage calibrated time bar in the combination of Young and Ellis et al. to display the precise percentages in numerical characters, such as that taught by Sony Digital Receiver SAT-A1 in order to offer a more precise visual notification to users about progress made and time remaining.

20. Claim **31** is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Ellis et al.

Referring to claim **31**, Young discloses a method of displaying a program progress time (item 72) of a currently viewed program (Fig. 10) comprising:

- issuing a user-initiated display command (Select)(col. 10, l. 20-40 & Figs. 10, 11);
- displaying a program terminating time (F)(item 72)(Fig. 10) of the currently viewed program and a current time (vertical line)(item 72)(Fig. 10) in response to the display command automatically at a preset time set by the user prior to a program terminating time of the currently viewed program (at the time user presses Select), wherein the program progress time is displayed transiently for a predetermined time in response to the display command and automatically disappears after said predetermined time has elapsed, without a user input after the user initiates the display command (the

Art Unit: 2424

examiner notes that the time bar 72 is displayed until the user presses Select again (see Fig. 11) or until two seconds have expired (col. 27, l. 34-38). That is, the system is configured to display the time bar until the time at which a user presses the Select button again or until two seconds have expired, at which time the CPU automatically causes the display bar to disappear. The examiner interprets this as displaying the time bar transiently for a predetermined time)(col. 10, l. 20-40; col. 27, l. 34-38; & Fig. 11).

Young does not specifically disclose displaying next program information automatically at the preset time. Ellis et al. discloses a program BROWSE mode that displays an overlay portion 111 describing the program currently playing on the current channel (col. 13, l. 19-30 & Figs. 7, 8). Ellis et al. further discloses that, while viewing the program schedule information for a currently viewed program, the user can press a right direction arrow to display future program schedule information for the channel currently being viewed (col. 13, l. 19-30 & Fig. 8A). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify to the program notes display of Young to allow a user to view program notes about the next program on the channel, and to allow the user to move between program notes about the currently viewed program and the next program until the user exits the mode, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56). Ellis et al. further discloses that the user may set a REMINDER message to remind the viewer about the future program at a predetermined time before the start of the future program (col. 13, l. 54-67; col. 14, l. 1-26; & Figs. 9A, 9B). It would have been obvious to one of ordinary skill in the art at the

Art Unit: 2424

time that the invention was made to modify the program notes display of Young to display a reminder about an upcoming program on the same channel, such as that taught by Ellis et al. in order to allow a user to create a viewing itinerary while still viewing a program currently appearing on a television receiver (Ellis et al. col. 1, l. 53-56).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL VAN HANDEL whose telephone number is (571)272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Van Handel/
Primary Examiner, Art Unit 2424

Application/Control Number: 09/055,712

Page 53

Art Unit: 2424

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